

atmosphere'22

FINLAND

EdgeConnect Fabric

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Challenges driving SD-WAN/WAN Edge adoption?



Increased Demand for Application Performance

Inconsistent SaaS application performance, expensive backhauling



Managing Multicloud Connectivity

Struggling to keep up with connectivity to public clouds, cloud-delivered security services and IoT



Branch Infrastructure Sprawl

Routers, FWs, WAN Optimization, Multiple operating systems



Total Lack of Automation

Manual configurations and device-by-device changes, delays



Consistent Edge-to-Cloud Security

Limiting lateral movement of viruses, end-to-end segmentation, best-of-breed SASE architecture, and IoT protection

What it all nets out to: SD-WAN/WAN EDGE is...

**A better way to build, connect and manage
Wide Area Networks (WAN)**

**A network built for applications living in the
Datacenter AND Cloud**

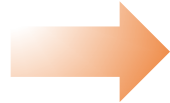
**That replaces legacy branch routers with a simple,
easy to manage fabric**

And massively simplifies branch network and connectivity

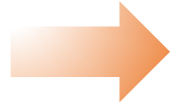
Aruba WAN Edge Portfolio

Current Aruba Portfolio

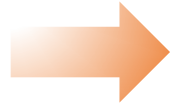
Aruba EdgeConnect
(Silver Peak)



Aruba SD-Branch



Aruba IAP/RAP



Aruba VIA



New Name

EdgeConnect Enterprise



EdgeConnect SD-Branch



EdgeConnect Microbranch



EdgeConnect Mobile



Aruba Secure Wan Edge Portfolio

Data Center and Branch App & Services



Cloud Hosted Apps and Services (IaaS)



Central



EdgeConnect Mobile

Mobile Users



EdgeConnect
Microbranch

Home Users



EdgeConnect
SD-Branch

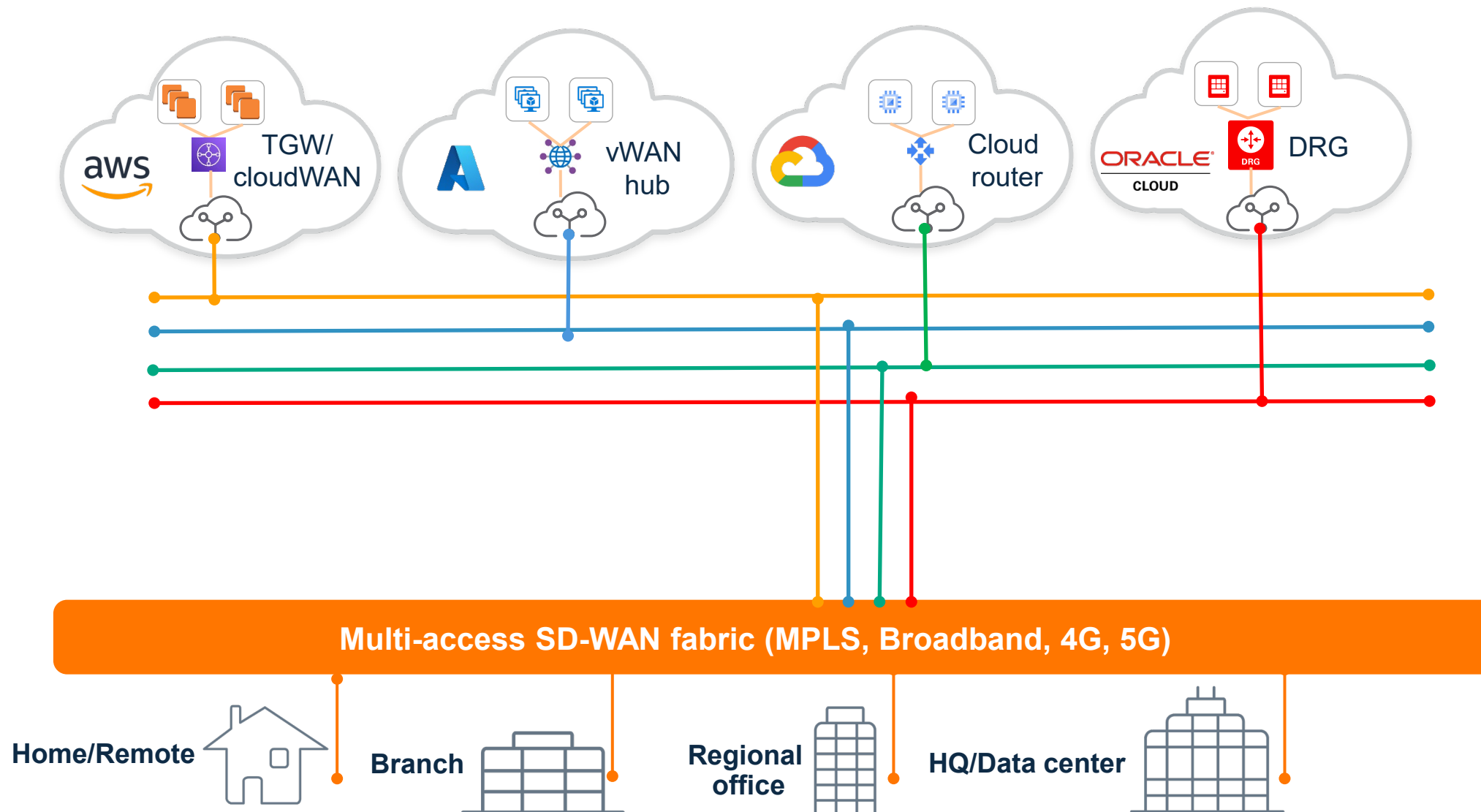


EdgeConnect
Enterprise

Branches, Campuses, Datacenters and Cloud

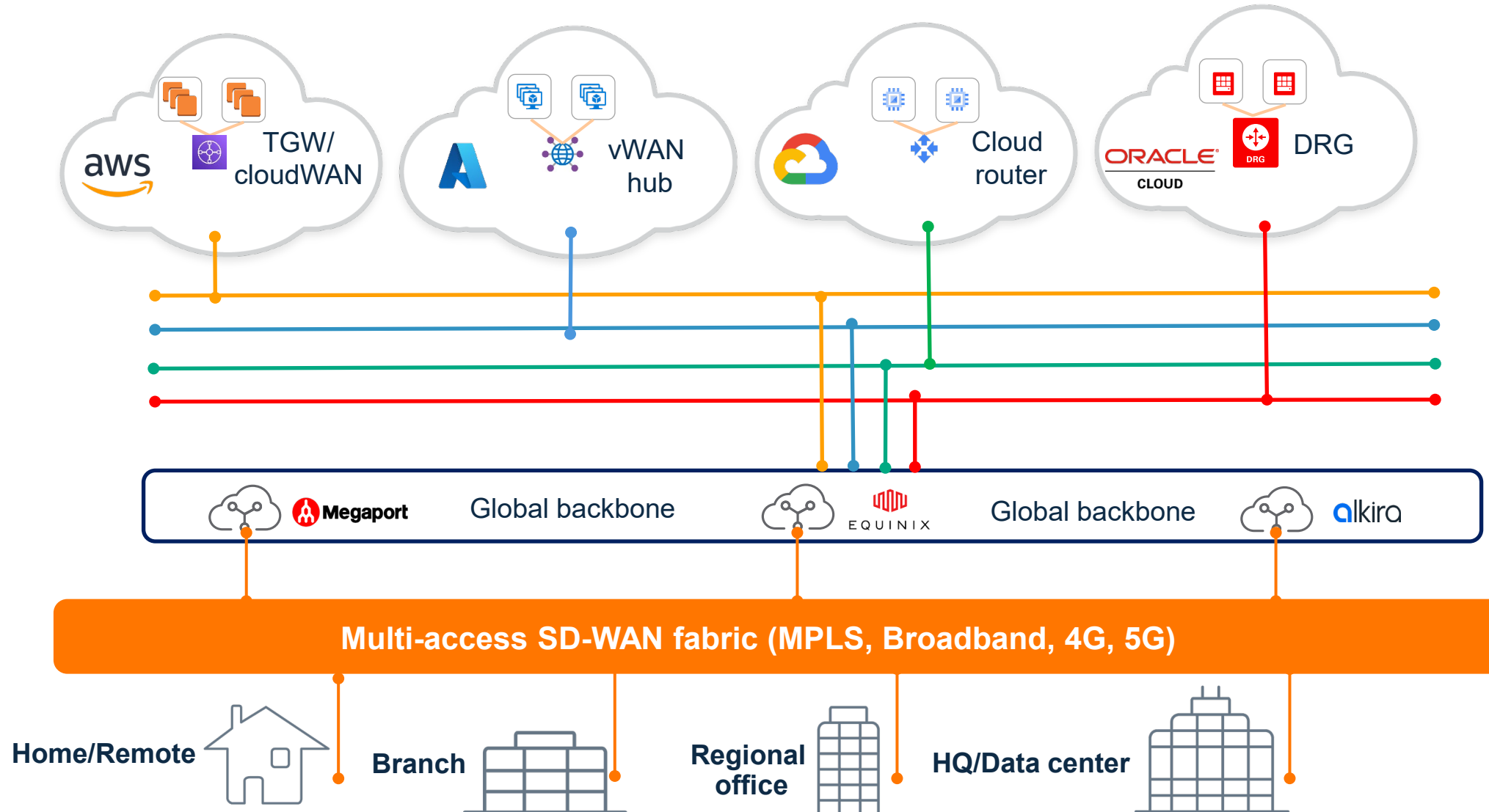
Multi-cloud networking with Aruba EdgeConnect

Flexible, secure, SD-WAN cloud connectivity - **Option 1**



Multi-cloud networking with Aruba EdgeConnect

Flexible, secure, SD-WAN cloud connectivity - **Option 2**



Aruba Secure WAN Edge Portfolio

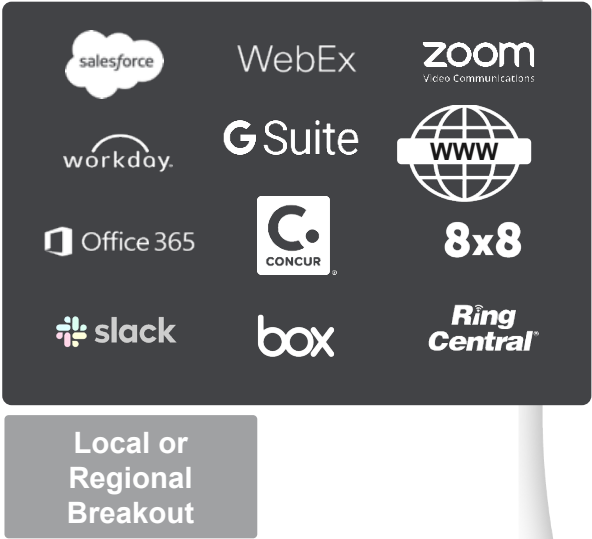
Data Center and Branch App & Services



Cloud Hosted Apps and Services (IaaS)



SaaS, Cloud Based Services



Central



EdgeConnect Mobile

Mobile Users



EdgeConnect
Microbranch

Home Users



EdgeConnect
SD-Branch

Branches, Campuses, Datacenters and Cloud



EdgeConnect
Enterprise

SaaS Express

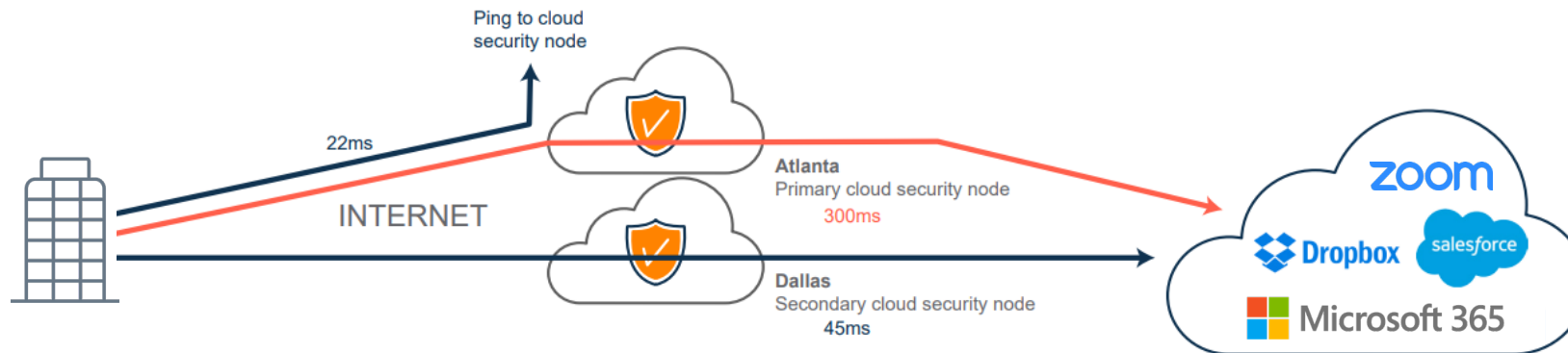
Best SaaS path every time

Microsoft 365
Networking Partner



Scenario 1

SaaS Express uses synthetic polling reinforced by actual packet observations to continuously identify the best path to reach a given SaaS application



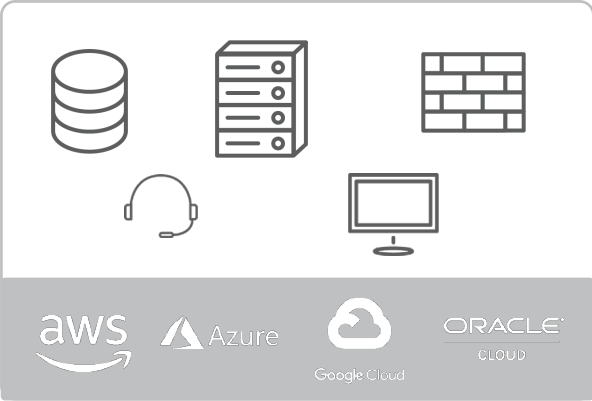
Scenario 2

Aruba Secure WAN Edge Portfolio

Data Center and Branch App & Services



Cloud Hosted Apps and Services (IaaS)



SaaS, Cloud Based Services



Central



EdgeConnect Mobile

Mobile Users



EdgeConnect
Microbranch

Home Users



EdgeConnect
SD-Branch

Branches, Campuses, Datacenters and Cloud



EdgeConnect
Enterprise

Orchestrated Cloud Security Integration

One-Click Cloud Security Integration

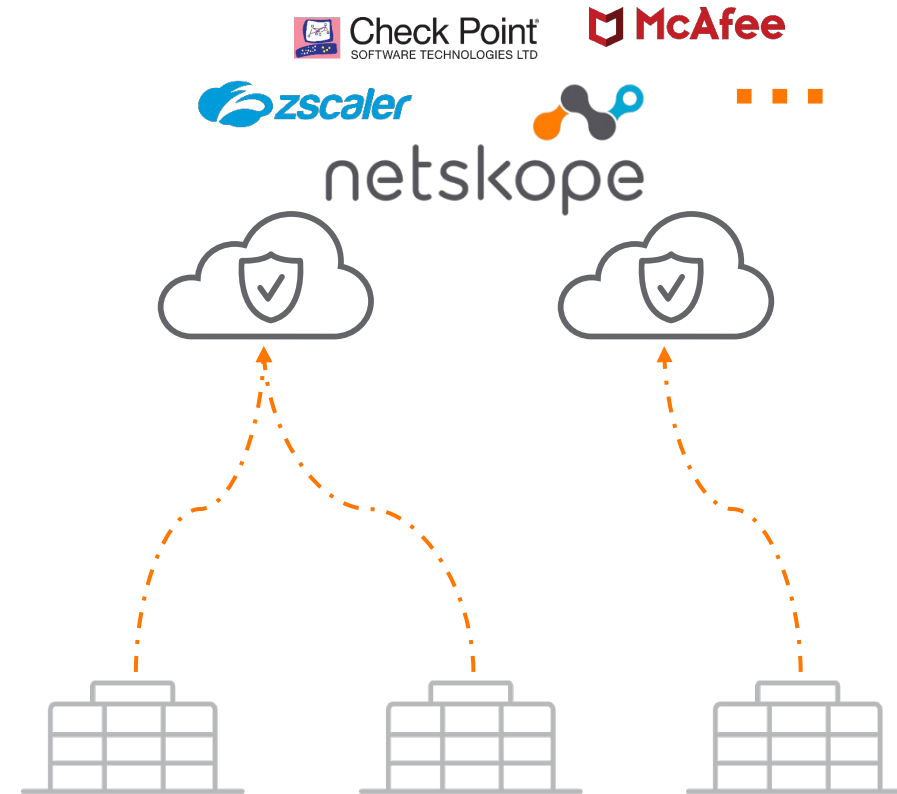
- Orchestration to create and define locations in the cloud security provider

Find the nearest Cloud Security Edge

- Geo-location of nearest cloud security edge to optimize traffic path

Policy-based enforcement

- Role/application-aware routing policies enable more granular integration



Reduce deployment time

- Cloud Security integration deployed from a central point. No manual overrides needed.

Optimize traffic flow

- Send traffic through the nearest node

Only send the necessary traffic

- Real-time traffic or traffic from non-critical users (guest) can selectively be routed through the local-breakout

Aruba Secure WAN Edge Portfolio

Data Center and Branch App & Services



Cloud Hosted Apps and Services (IaaS)



SaaS, Cloud Based Services



Secure, Optimized, Protected SD-WAN Fabric



EdgeConnect Mobile

Mobile Users



EdgeConnect Microbranch

Home Users



EdgeConnect SD-Branch

Branches, Campuses, Datacenters and Cloud



EdgeConnect Enterprise

Unified Branch Security



App-user aware firewall



Deep packet inspection



Endpoint Profiling



Intrusion detection & prevention system



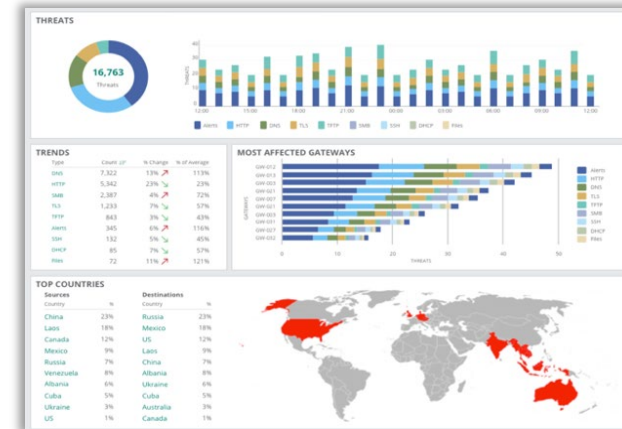
Web content & URL filtering



Zero Trust – Dynamic Segmentation



VRF – Advanced Segmentation



Threat visibility

- Threat trending over time
- Overlay with app/user launch and network direction
- Threat source and impact

Policy-driven enforcement

- Out of box IDS / IPS policies
- User defined whitelisting
- False positive management flow
- Segmentation (Dynamic & VRFs)

EdgeConnect Secure WAN Edge

Right-sized based upon use case and location



EdgeConnect Enterprise

- Advanced SD-WAN with Business Intent Overlays
- Max network and app performance



EdgeConnect SD-Branch

- Integrated management for Wired, Wi-Fi, Security and SD-WAN
- End-to-end user-centric security



EdgeConnect Microbranch

- Small office / work from home “branch of one”
- SD-WAN features including cloud-delivered security



EdgeConnect Mobile

- Work from anywhere on laptops, phones or tablets
- Role-based security taken to a VPN client!

EdgeConnect Secure WAN Edge

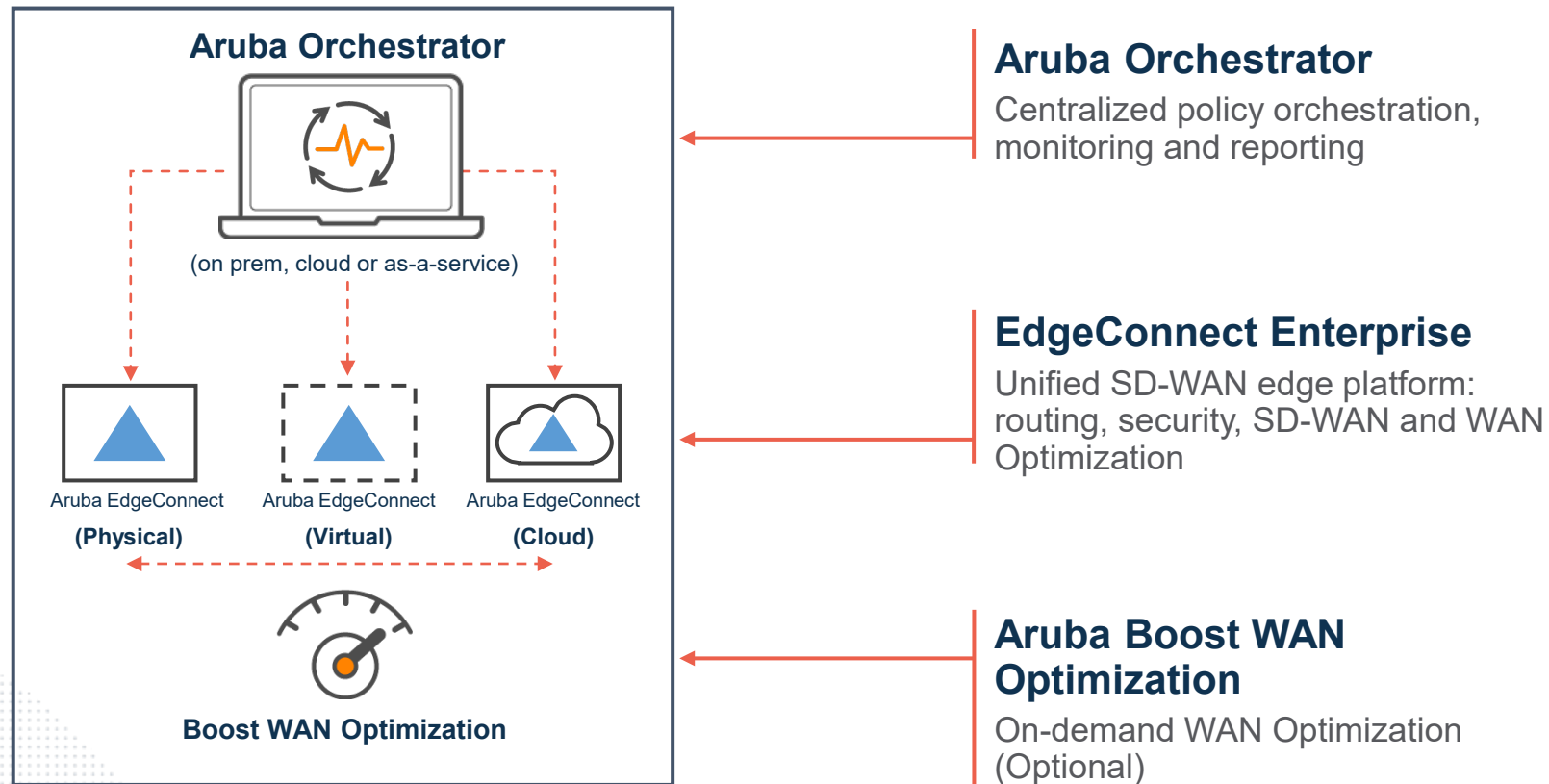
Right-sized based upon use case and location



EdgeConnect Enterprise

- Advanced SD-WAN with Business Intent Overlays
- Max network and app performance

EdgeConnect Enterprise - Architecture



Aruba Orchestrator




On-Premise, Private Cloud, IaaS

Orchestrator license is included with EdgeConnect subscription. No SKU required for on-premises Orchestrator.

OR

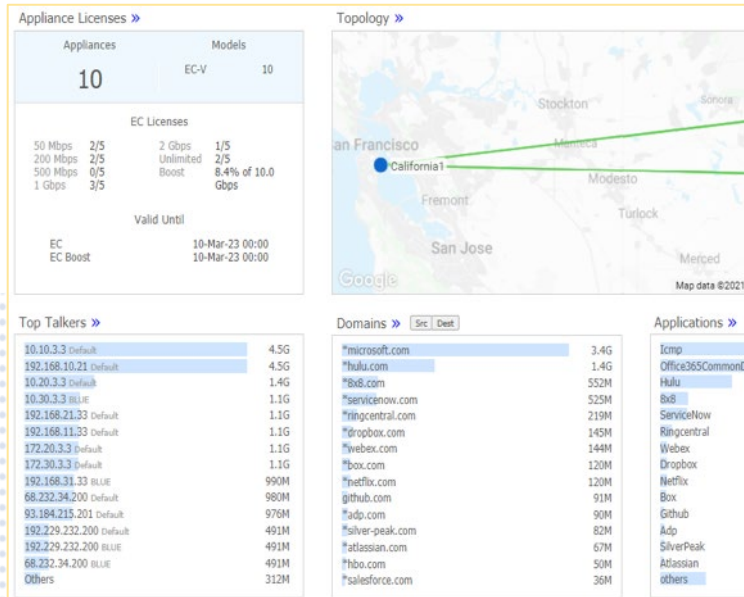
Orchestrator As-a-Service

Fully hosted by Aruba as-a-service. Single tenant is the most frequently used.

Type Single Tenant Or <u>Global</u> <u>Enterprise</u> <u>(Multi-Tenant)</u>	Small Up to 50 Appliances	Region United States Frankfurt	Term 1 Year 2 Years 3 Years 4 Years 5 Years
	Medium Up to 200 Appliances		
	Large More than 200 Appliances		
<div> Orchestrator-as-a-Service</div>			

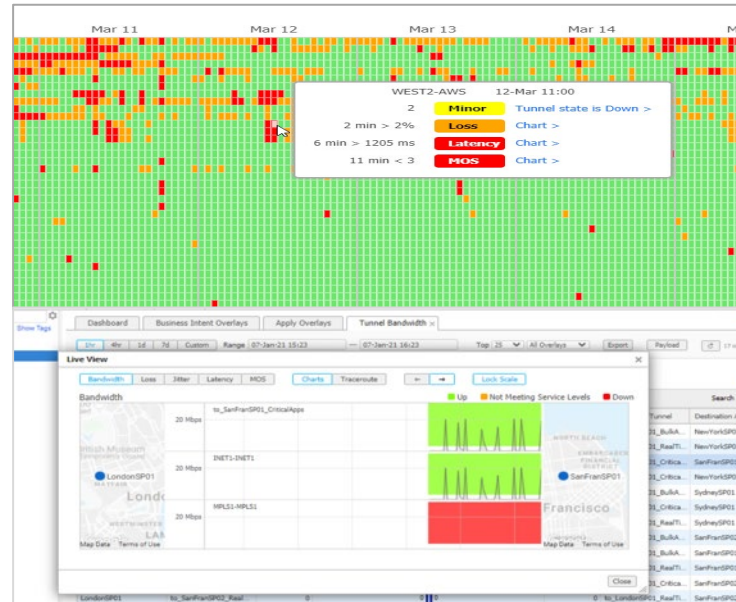
Automation with Application/Network Visibility

Dashboard



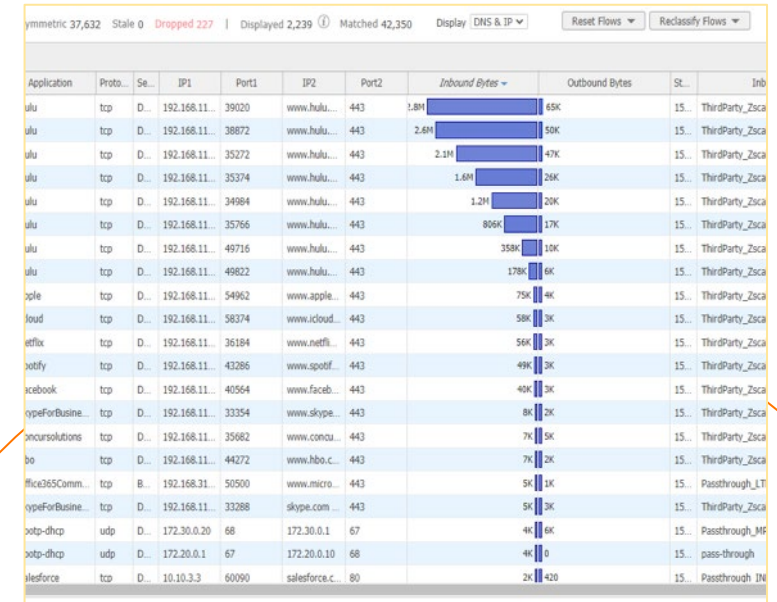
Comprehensive dashboard highlights key network and application attributes, and places focus on critical issues

Real-time Health Map



Network health is visualized in real-time and correlated across all locations. Alarms, network health and configuration issues are all easily diagnosed

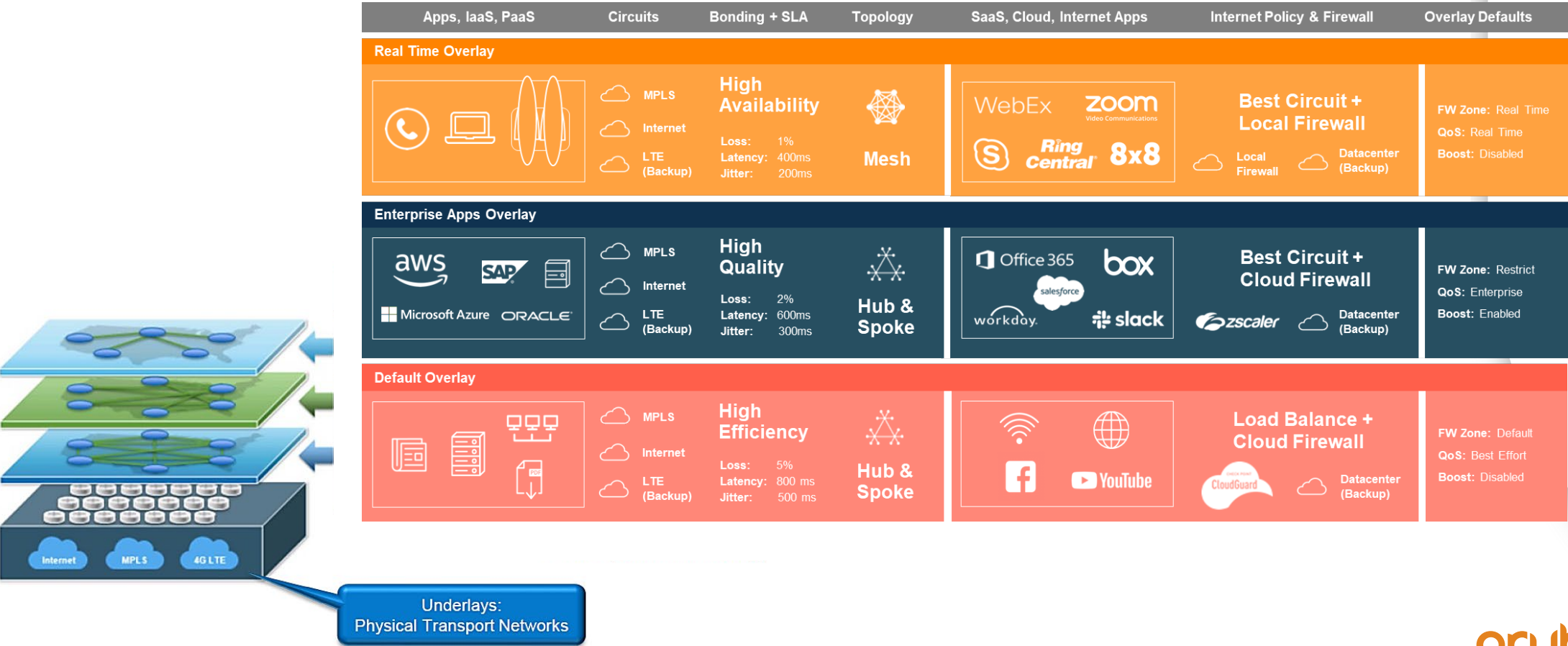
Connection Level Visibility



















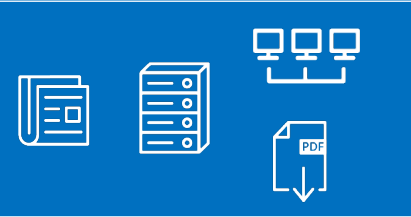







Flow level statistics give total visibility into every connection on the network providing total visibility and control of applications and users

Business Driven SD-WAN Policies

Business Intent Overlays (BIOs) are logical networks that are individually customized to your applications and requirements within your network



Business Driven SD-WAN Policy's

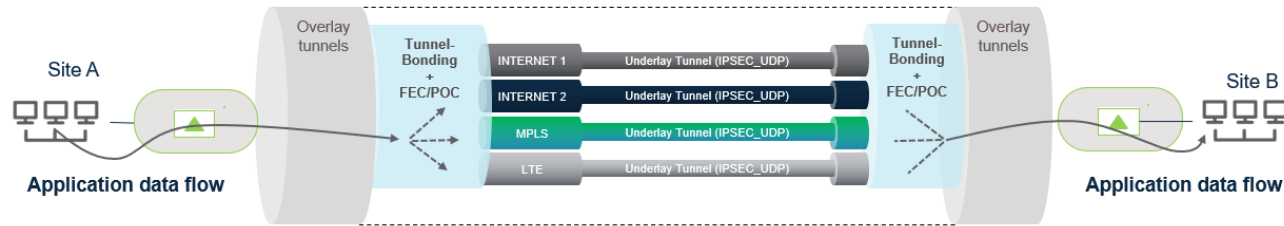
Apps, IaaS, PaaS	Circuits	Bonding + SLA	Topology	SaaS, Cloud, Internet Apps	Internet Policy & Firewall	Overlay Defaults
Real Time Overlay						
	 MPLS  Internet  LTE (Backup)	High Availability Loss: 1% Latency: 400ms Jitter: 200ms	 Mesh		Best Circuit + Local Firewall  Local Firewall  Datacenter (Backup)	FW Zone: Real Time QoS: Real Time Boost: Disabled
Enterprise Apps Overlay						
	 MPLS  Internet  LTE (Backup)	High Quality Loss: 2% Latency: 600ms Jitter: 300ms	 Hub & Spoke		Best Circuit + Cloud Firewall   Datacenter (Backup)	FW Zone: Restrict QoS: Enterprise Boost: Enabled
Default Overlay						
	 MPLS  Internet  LTE (Backup)	High Efficiency Loss: 5% Latency: 800 ms Jitter: 500 ms	 Hub & Spoke		Load Balance + Cloud Firewall   Datacenter (Backup)	FW Zone: Default QoS: Best Effort Boost: Disabled

Best Performance Over any Condition

Provides private-line-like performance over the public Internet

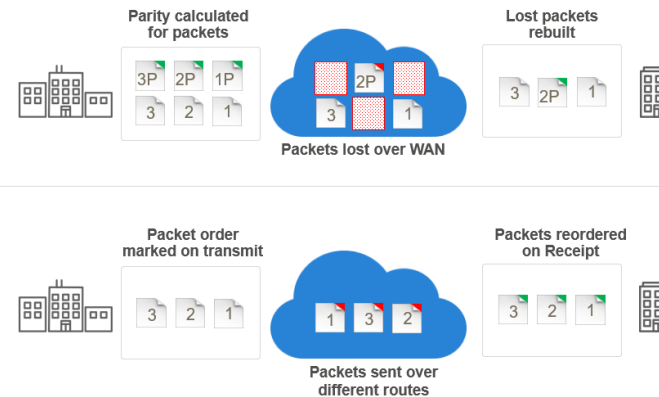
WAN Link bonding

- Packet-based load sharing
- Constant monitoring
- Zero second failover



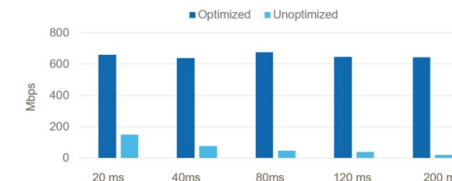
Path conditioning

- **FEC** (Advanced packet loss correction)
- **POC** (Packet order correction)



WAN Opt (Boost)

- **TCP Acceleration**
- **Data Reduction**



Adaptive internet breakout

- Intelligent breakout of SaaS and trusted internet-bound traffic directly from the branch

- Application-driven steering enables security transformation

- Eliminate tradeoffs between application security and performance



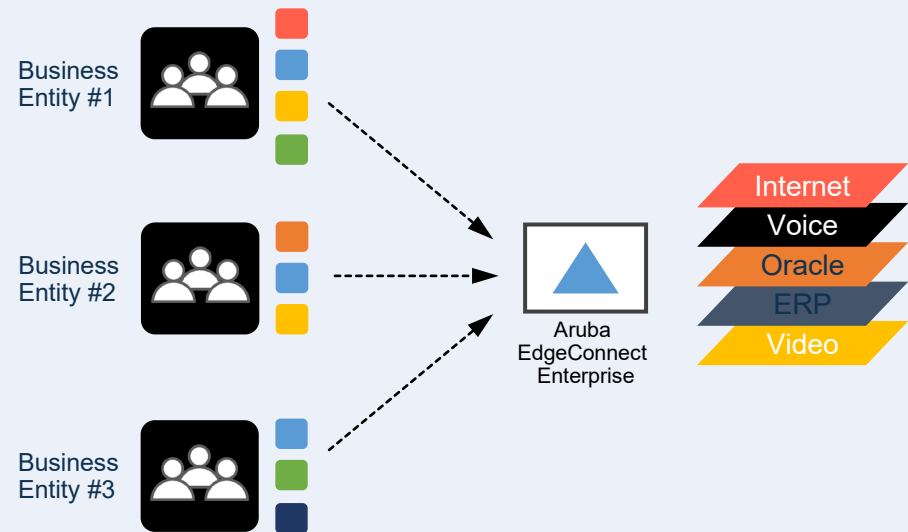
- ## Reduce backhaul

- ## Save valuable WAN bandwidth

- Avoid consumption of expensive MPLS circuits where not necessary

Advanced Segmentation

- Establish granular policies across the network; reduce attack surface
- Configure microsegments: separate business entities share the same applications and WAN infrastructure
- Eliminate overlapping IP address conflicts - no service disruptions



Overlays & Breakout Policies for VRFs

Segment Name

Segment Name	Internet	Voice	Oracle	ERP	Video
Default	Include	Include	Skip	Skip	Skip
Business Entity #1 (VRF1)	Include	Include	Include	Skip	Include
Business Entity #2 (VRF2)	Include	Include	Skip	Skip	Include
Business Entity #3 (VRF3)	Skip	Include	Include	Include	Skip

Save

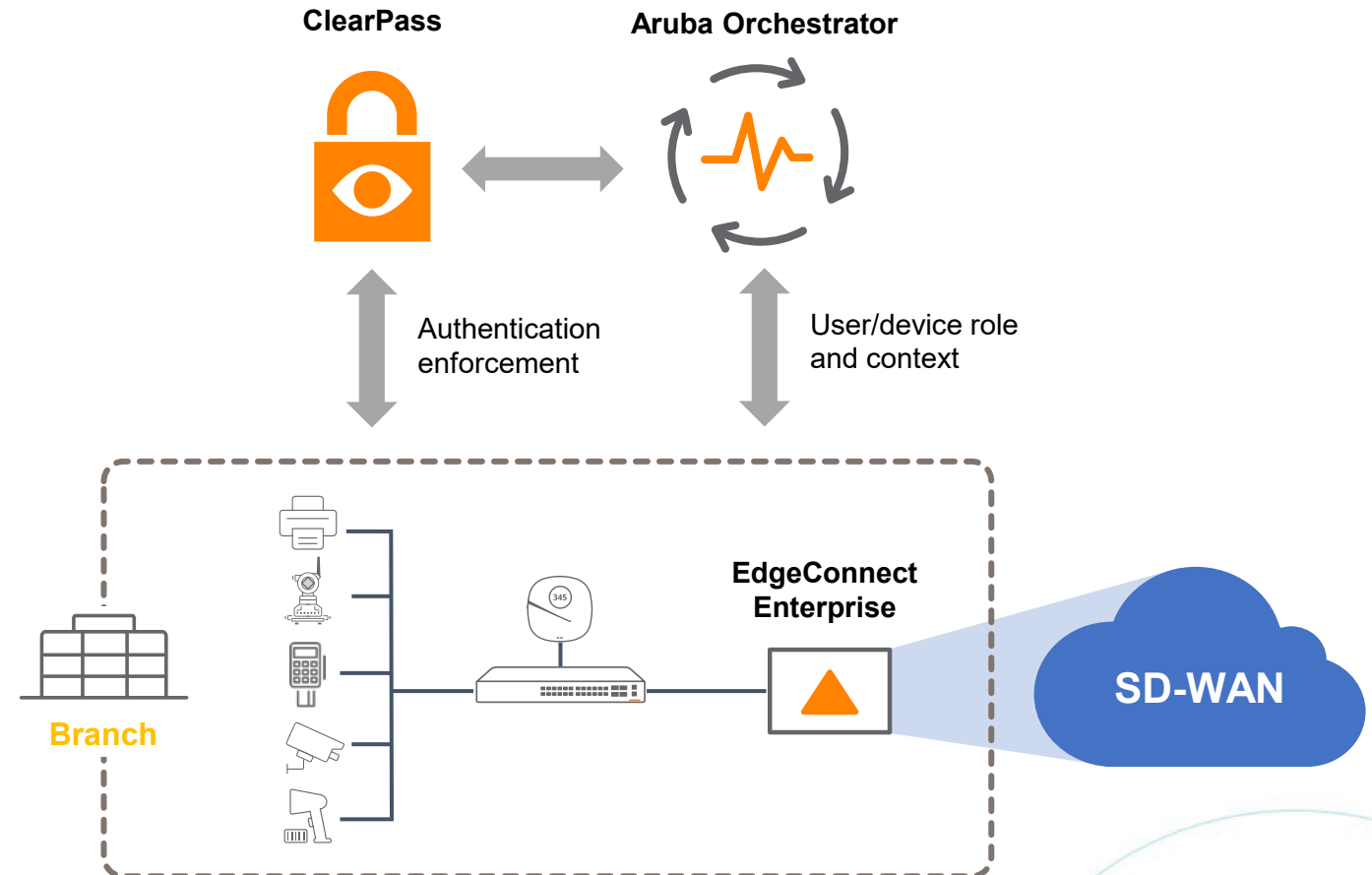
Cancel

Aruba ClearPass Integration

Visibility, control, response

Single platform automates enterprise-wide context-aware, role-based policy

- **Visibility and automation:**
 - Built-in discovery, profiling and dashboards
 - Multi-vendor wired, wireless and VPN
- **Control:**
 - Access control of users/devices
- **Response:**
 - Adaptive response and dynamic segmentation
- **360 Security integrations:**
 - Ecosystem of 150+ security partners
- **Leverage multiple identity stores:**
 - Support for AD, LDAP, SQL, Internal dB, BYOD, third party integration



EdgeConnect Enterprise – Out of the box

Ready for use after installation. Only a few adjustments needed. Only customer specific details needed. Standard applications are already there, mapped according to many years of experience.

Simple to manage, no advanced skills to add/change policy's, just drag and drop.

Visibility, all information in one place. All flows in the fabric can be seen in real time. Built in reports.

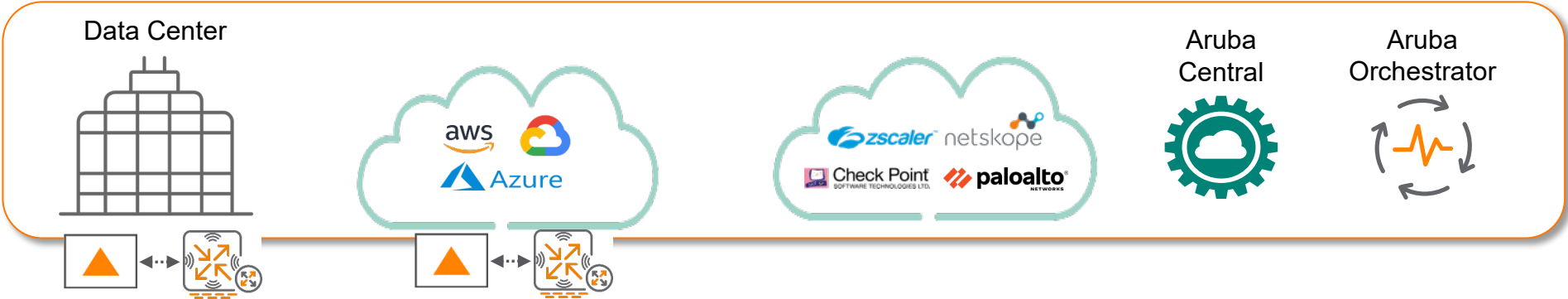
Aruba Edgeconnect Unified Fabric

Optional subtitle

Available today!

Aruba EdgeConnect SD-WAN Fabric

Simplifies provisioning, managing, securing, and operating WAN infrastructure across locations of any size



Converging management

Aruba Central w/EdgeConnect site view

Joint Strategy

- Role Based Policies
- Dynamic Segmentation
- Aruba Threat Defense
- Cloud IaaS Integration
- Cloud security partners

Mobile

Max Mobility

Microbranch

Min Footprint

SD-Branch

Max Integration

Enterprise

SD-WAN

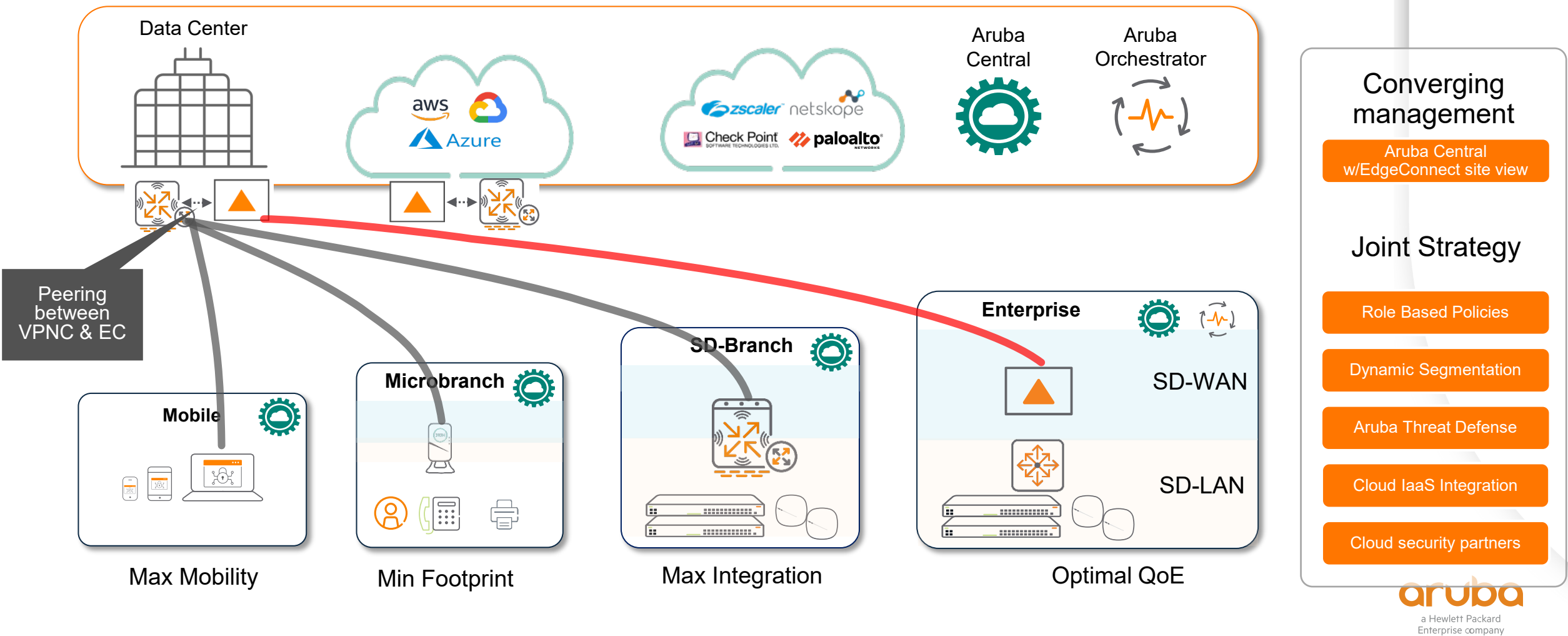
SD-LAN

Optimal QoE

Available today!

Aruba EdgeConnect SD-WAN Fabric

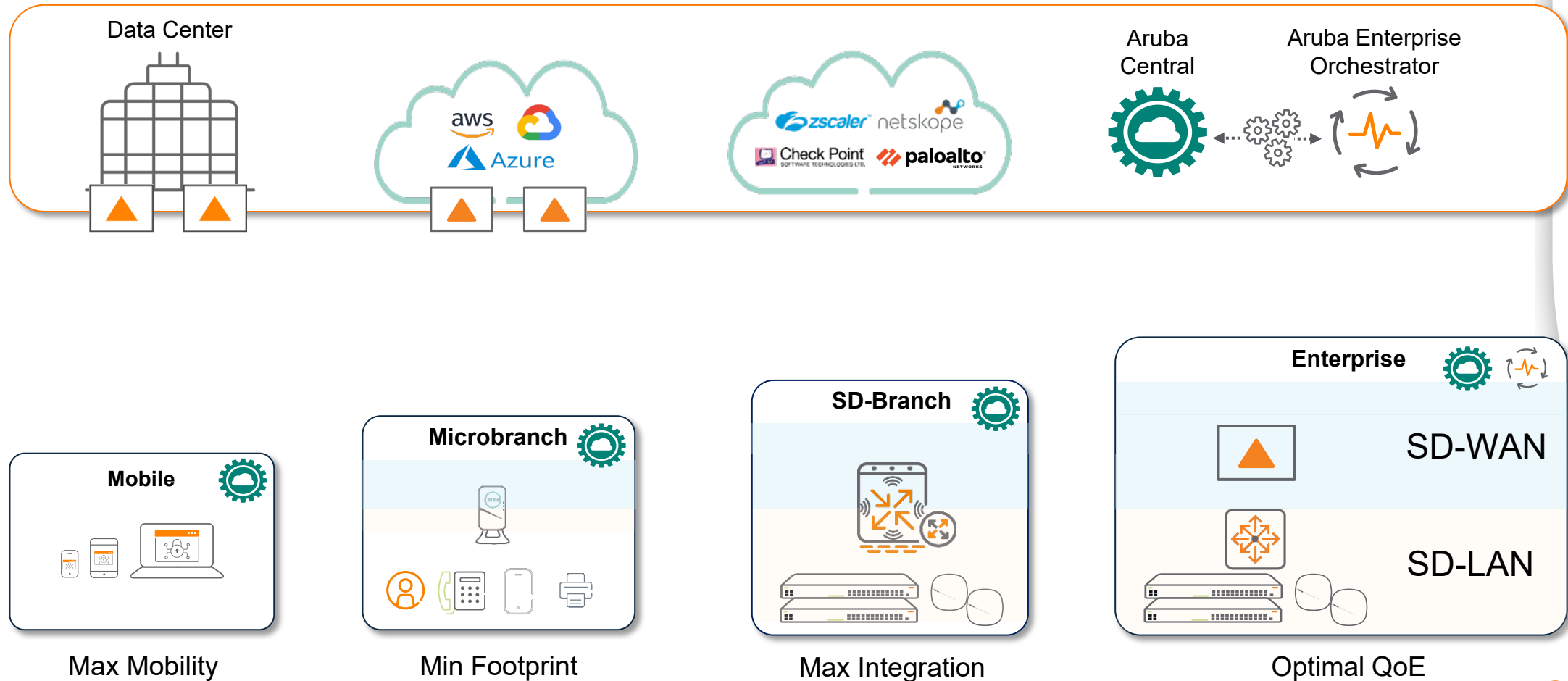
Simplifies provisioning, managing, securing, and operating WAN infrastructure across locations of any size



Coming soon!

Aruba EdgeConnect SD-WAN Fabric

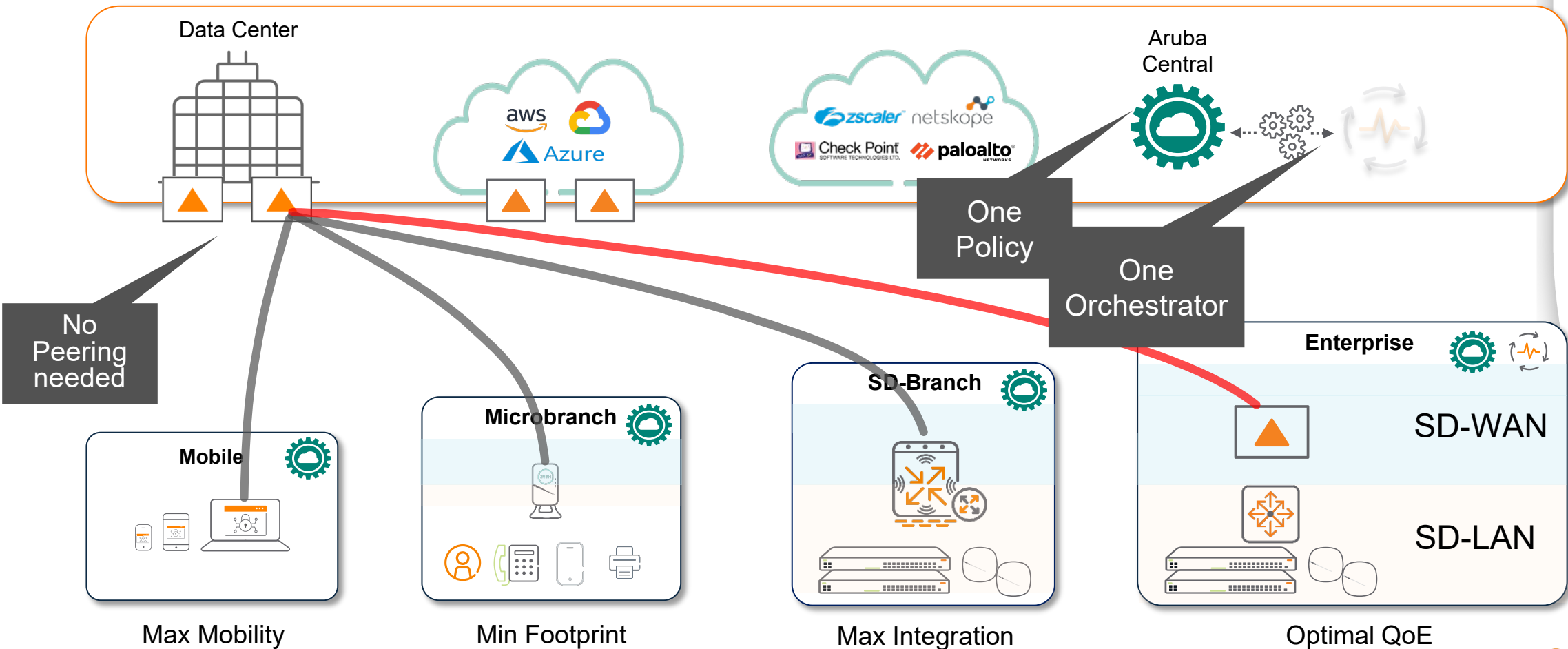
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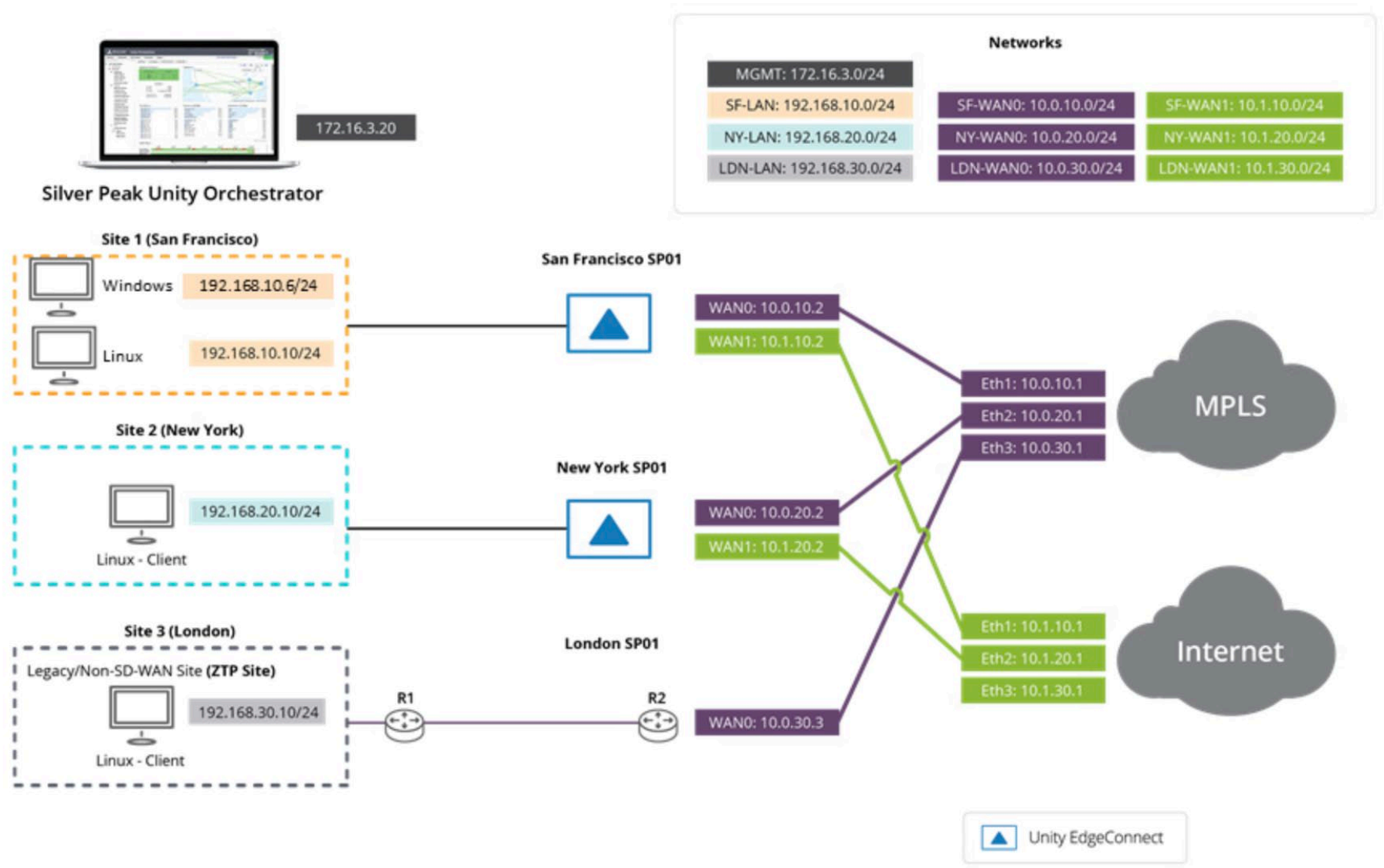
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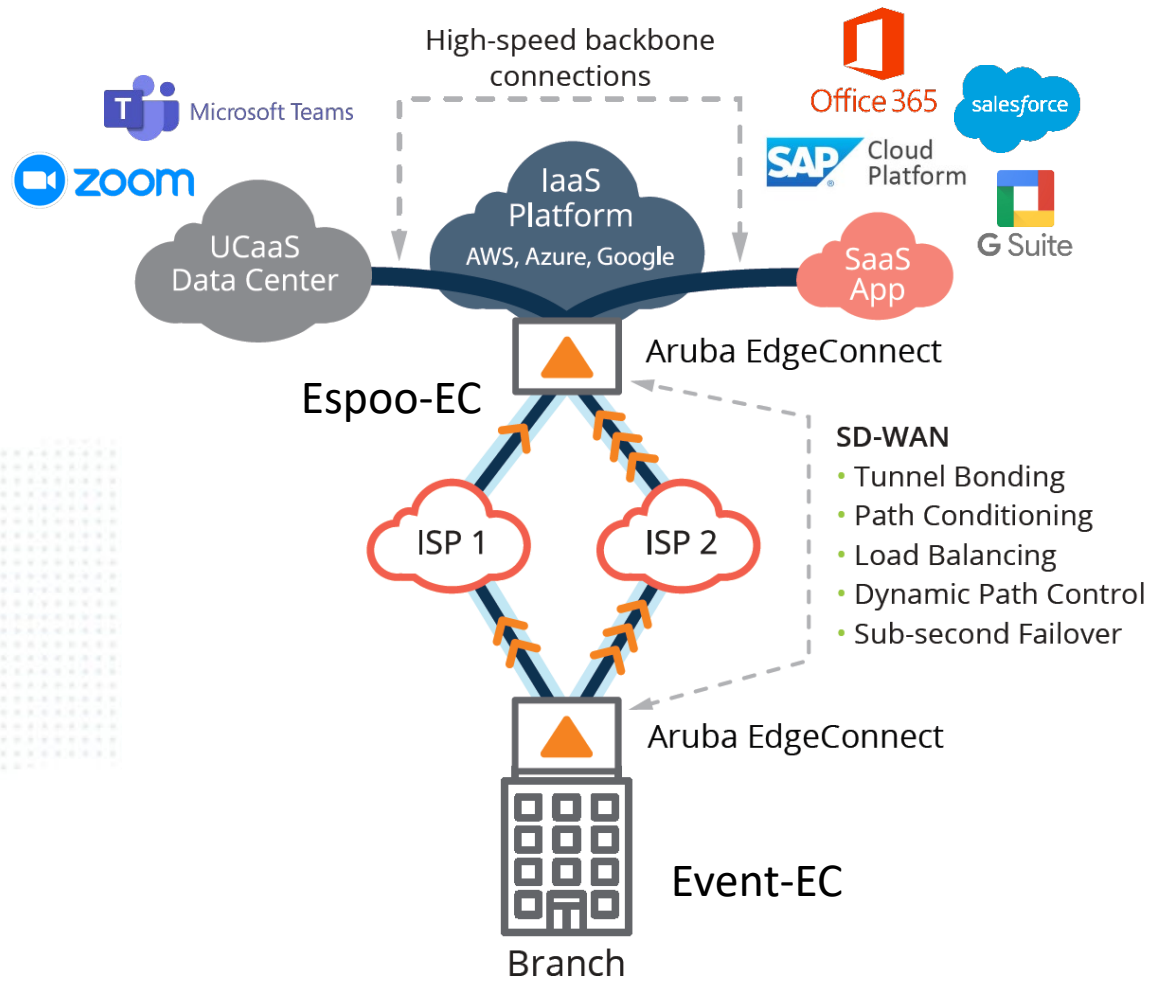
EdgeConnect Enterprise DEMO

Optional subtitle

EdgeConnect Demo Topology



Local Demo Setup



- **First mile WAN conditioning**, is relevant for cloud voice/video apps, but as well for any critical enterprise app
- Single NAT breakout irrespective of the number of WAN links at the branch, provides high reliability and **sub-second failover for cloud apps** (per-packet load balancing) without affecting established sessions

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Thank you

Contact information